

What is claimed is:

1. A set top box capable of performing wireless transmission, the set top box comprising:

an advanced television system committee (ATSC) receiver, which converts a tuned digital broadcasting signal into a transport (TS) stream;

a TS stream converting unit, which converts a high definition (HD) image signal input from outside into a standard definition (SD) image signal and then converts the SD image signal into the TS stream; and

a wireless processing module, which wirelessly processes an output of the ATSC receiver or an output of the TS stream converting unit and transmits the processed output.

2. The set top box of claim 1 further comprising a switching unit which switches the output of the ATSC receiver or the output of the TS stream converting unit.

3. The set top box of claim 2 further comprising a decoding unit which decodes the TS stream switched by the switching unit and outputs the decoded TS stream to an image device connected to the set top box by a wire.

4. The set top box of claim 1, wherein the TS stream converting unit comprises:  
a converter, which converts the HD image signal input from outside into the SD image signal; and

an encoding unit, which converts the SD image signal input from outside or the output of the converter into the TS stream.

5. The set top box of claim 4, wherein the converter comprises:

an analog-to-digital converter (ADC), which converts the HD image signal input from outside into a digital signal; and

a down converter, which converts the HD image signal converted into the digital signal into the SD image signal.